

The Seventeenth Session of the Scientific Advisory Committee
on the Acid Deposition Monitoring Network in East Asia
26-28 September 2017, Pathumthani, Thailand

Progress Report on the activities of the Task Force on Monitoring for Dry Deposition

**Chair of the Task Force
on Monitoring for Dry Deposition**

I. Background

1. The Task Force on Dry Deposition Monitoring for the Acid Deposition Monitoring Network in East Asia (EANET) was first established in 1998 by the First Session of the Interim Scientific Advisory Group (ISAG1) of EANET to carry out the following functions:
 - i) to prepare a draft QA/QC program for the first priority chemicals and particles during the preparatory phase, for consideration and adoption by ISAG, and
 - ii) to develop a strategy paper for future direction of dry deposition monitoring of EANET, for consideration of ISAG.
2. The Task Force subsequently produced the 4 important documents as follows:
 - *Strategy Paper for Future Direction of Dry Deposition Monitoring of EANET*, endorsed by ISAG in September 1999
 - *Strategy Paper for Future Direction of Dry Deposition Monitoring of EANET (Second Edition)* endorsed by the Fifth Session of the Scientific Advisory Committee (SAC5) of EANET in September 2005
 - *Strategy Paper on Future Direction of Monitoring for Dry Deposition of EANET (2011-2015)* endorsed by the Tenth Session of the Scientific Advisory Committee (SAC10) of EANET in October 2010
 - *Strategy Paper on Future Direction of Monitoring for Dry Deposition of EANET (2016-2020)* endorsed by the Fifteenth Session of the Scientific Advisory Committee (SAC15) of EANET in October 2015
3. The First meeting of the Task Force on Dry Deposition Monitoring was held on 14 October 2008 in Hanoi, Viet Nam. At the First meeting, reconsideration of the Terms of Reference, membership and name of the Task Force were discussed. On the recommendation of the Eighth Session of SAC (SAC8), and the Tenth Session of the Intergovernmental Meeting (IG10) in November 2008 agreed to change the name of the Task Force to “Task Force on Monitoring for Dry Deposition” and agreed to the new Terms of Reference (TOR) for the Task Force.

4. The Second Task Force meeting was held on 14 October 2009 in Tsukuba Japan. At the Second meeting, the NC submitted the first draft of the Strategy Paper on Future Direction of Monitoring for Dry Deposition of EANET. Then, the Third Task Force meeting was held on 26 – 27 July 2010 in Niigata, Japan. At the Third Meeting, the Strategy Paper on Future Direction of Monitoring for Dry Deposition of EANET (2011-2015) was finalized, and it was submitted to the Tenth Session Scientific Advisory Committee (SAC10) in 2010 for adoption.
5. The Fourth Meeting was held at the NC during 20-21 August 2015. It passed 5 years since the Third meeting of Task Force, and since last meeting many Task Force members are not active in EANET after the Third meeting. At the Fourth meeting, the current status of dry deposition flux estimation in EANET and the current status of air concentration monitoring in EANET were reviewed. Then, the draft of the Strategy Paper on Future Direction of Monitoring for Dry Deposition of EANET (2016-2020) was finalized, and it was submitted to the Fifteenth Session Scientific Advisory Committee (SAC15) in 2015 for adoption. SAC15 adopted the revised Terms of Reference of the Task Force and establishment of Expert Groups which will consider revision of the Technical Manual on Dry Deposition Flux Estimation in East Asia and the Technical Manual for Air Concentration Monitoring in East Asia.

II. Activities

II-1. Terms of Reference of the Task Force

6. The Task Force will conduct activities under the following revised Terms of Reference of the Task Force adopted by SAC15 in 2015. The Task Force is promoting activities according to the Terms of Reference. In 2017, Review of the Technical Manual for Air Concentration Monitoring in East Asia, Consideration on feasibility of developed monitoring techniques, Further elaborate and develop and elaborate dry deposition flux estimation methodology, Enhancement of spatial coverage for dry deposition flux estimation, Promotion of an ozone and PM₁₀/PM_{2.5} monitoring network and review of its current status in East Asia, Develop the database for surface resistances of tropical and boreal regions, further elaborate QA/QC for air concentration monitoring are considered.
 - i) To further develop and elaborate the strategy for dry deposition evaluation in the region
 - ii) To discuss on future direction of dry deposition evaluation and provide guidance on relevant activities based on the strategy
 - iii) To improve the Technical Manuals for Air Concentration Monitoring and Dry Deposition Flux Estimation

II-2. Members

7. The current member was listed below. Besides the Chair, One member from each EANET participating country has been nominated as the Task Force member. Because some members of the Task Force in EANET participant countries are inactive, the member list should be renewed. The membership of the Task Force will confirmed by each countries and report to the Secretariat of the Task Force.

1. Prof. Cho Seog-Yeon (Chair) Inha University, Republic of Korea
2. Mr. Chhek Roth / Mr. Kong Savuth Ministry of Environment, Cambodia
3. Dr. Li Jianjun China National Environmental Monitoring Center (CNEMC), China
4. Ms. Rina Aprishanty Environmental Management Center (BAPEDAL), Indonesia
5. Prof. Shiro Hatakeyama Tokyo University of Agriculture and Technology, Japan
6. Ms. Setouvanh Phanthavongsa Water Resources and Environment Research Institute, Lao PDR
7. Ms. Maznorizan Mohamad Malaysian Meteorological Department (MMD), Malaysia
8. Ms. Bold Altantuya Central Laboratory for Environment and Metrology (CLEM), Mongolia
9. Ms. Htwe Htwe Win Department of Meteorology and Hydrology (DMH), Myanmar
10. Engr. Jean N. Rosete Environmental Management Bureau (EMB), Philippines
11. Dr. Chang Lim-Seok National Institute of Environmental Research (NIER), Republic of Korea
12. Dr. Tamara V. Khodzher Limnological Institute of the Siberian Branch of the Russian Academy of Sciences (RAS/SB), Russia
13. Dr. Patcharawadee Suwanathada Pollution Control Department, Thailand
14. Dr. Duong Hong Son Institute of Meteorology, Hydrology and Environment, Vietnam

II-3. Activities in 2017

8. Activities in 2017 are implementing according to the Strategy Paper on Future Direction of Monitoring for Dry Deposition of EANET (2016-2020). The detailed activities are shown as follows.
- i) Current contents of Technical Manual for Air Concentration Monitoring in East Asia are reviewed so that contents are understandable for station and laboratory staffs and Data Quality Objectives (DQOs) and requirement of monitoring are modified as appropriate. Feasibility of developing monitoring techniques is also considered.
 - ii) Currently dry deposition flux is estimated only at Japanese sites because of availability of hourly meteorological data. Therefore, simple dry deposition estimation methodology or use of meteorological model data will be considered.
 - iii) Current technical manuals are reviewed by the Expert Group on revision of the Technical Manuals for Dry Deposition Flux Estimation and Air Concentration Monitoring in depth.
 - iv) The NC is promoting continuous measurements of air concentrations by encouraging participating countries to use automatic real-time monitoring instruments.
 - v) New PM monitor was installed by external funding and existing automatic monitoring stations were registered as EANET sites. Compared between Year 2011 and Year 2016, the numbers of O₃ and PM_{2.5} monitoring sites increased from 19 to 25 and from 3 to 21, respectively.
 - vi) The NC will review existing researches regarding surface resistances of tropical and boreal regions.
 - vii) The QA/QC guidebook which covers general requirements of QA/QC for overall EANET monitoring was adopted in 2016 and will be distributed to EANET participating countries in 2017.

II-3. Terms of reference (TOR) and membership of the Expert Group on revision of the Technical Manuals for Dry Deposition Flux Estimation and Air Concentration Monitoring

9. The terms of reference and the membership of the Expert Group was adopted by SAC16 and are shown as follows.

(TOR of the Expert Group)

- i) To review the current Technical Manual on Dry Deposition Flux Estimation in East Asia and Technical Manual for Air Concentration Monitoring in East Asia
- ii) Identification of elaborated methods of dry deposition flux estimation and air concentration monitoring methods in East Asia
- iii) Preparation of the revised version of Technical Manual on Dry Deposition Flux Estimation in East Asia and Technical Manual for Air Concentration Monitoring in East Asia

(Membership of the Expert Group)

Prof. Cho Seog-Yeon (Chair)	Inha University, Republic of Korea
Prof. Min Hu	Professor, College of Environmental Sciences, Peking University, China
Dr. Kazuhide Matsuda	Associate Professor, Tokyo University of Agriculture and Technology, Japan
Engr. Jean N. Rosete	Environmental Management Bureau (EMB), Philippines
Dr. Patcharawadee Suwanathada	Director of Ambient Air Quality Division, Air Quality and Noise Management Bureau, Pollution Control Department, Thailand
Dr. Duong Hong Son	Director, Center for Environmental Research, Vietnam Institute of Meteorology, Hydrology, and Environment, Vietnam

II-4. Schedule in 2017/2018

10. The Task Force will conduct the following schedule regarding establishment of the Expert Group on revision of the Technical Manuals for Dry Deposition Flux Estimation and Air Concentration Monitoring.

<u>2016-2017</u>	Review the current Technical Manual on Dry Deposition Flux Estimation in East Asia and Technical Manual for Air Concentration Monitoring in East Asia by the members and the Secretariat of the Expert Group
<u>November 2017</u>	1st meeting of the Expert Group to review the current Technical Manuals
June/July 2018	2nd meeting of the Expert Group to review the revised draft of Technical Manuals
August/September 2018	5th meeting of the Task Force to review the final draft of Technical Manuals
September/October 2018	Adoption of the revised Technical Manuals by SAC18

III. Recommendations to SAC17

11. The Seventeenth Session of the Scientific Advisory Committee of the EANET (SAC17) is invited to consider the report on the activities of the Task Force on Monitoring for Dry Deposition of the EANET by the Chair of the Task Force and approve resolution of Expert Group on Preparation of Technical Manual for Air Concentration monitoring.